

WHAT IS CLAIMED IS:

1. A method for transmitting video graphics data, comprising:
dividing a screen into a number of blocks, the blocks having contents;
periodically reading the contents of each one of the blocks;
computing a unique value for a first block based on the contents;
comparing the unique value for the first block to a previously computed unique value corresponding to the first block; and
transmitting the contents of the first block if the unique value for the first block is different from the previously computed unique value corresponding to the first block.
2. The method of claim 1, further comprising:
storing the unique value for the first block in a table if the unique values are different; and
comparing the unique value of the first block to a unique value corresponding to a preceding block,
wherein the transmitting step transmits the preceding block and a repeat command if the unique value of the first block is equal to the unique value corresponding to the preceding block.
3. The method of claim 1, further comprising:
storing the unique value of the first block in a table if the unique values are different;
comparing the unique value of the first block to a unique value corresponding to a preceding block; and
compressing the contents of the first block if the unique values are not equal,
wherein the transmitting step transmits the preceding block and a compressed first block if the unique value of the first block is not equal to the unique value corresponding to the preceding block.

4. The method of claim 3, wherein the compressing step includes compressing a number of similar bytes using a run length encoding technique.

5. The method of claim 1, further comprising:
periodically reading configuration information of a video graphics controller;
determining if the configuration information has changed; and
transmitting configuration changes if the configuration information has changed.

6. The method of claim 5,
wherein the screen is divided into a number of blocks, including rows and columns, based on the screen resolution, and
wherein the configuration information is read after a row of blocks is completed.

7. The method of claim 1, further comprising:
periodically reading configuration information of a pointing device;
determining if the configuration information has changed; and
transmitting configuration changes if the configuration information has changed.

8. The method of claim 7,
wherein the screen is divided into a number of blocks, including rows and columns, based on the screen resolution, and
wherein the configuration information is read after a row of blocks is completed.

9. The method of claim 1,
wherein all the blocks are read over a number of passes, and
wherein each pass reads a different fraction of all the blocks.

10. The method of claim 9, wherein surrounding blocks are marked for accelerated processing if during one of the passes the unique value for a given block is different from a previously computed unique value corresponding to the given block.

11. The method of claim 10, wherein each pass reads a different fraction of all the blocks and any blocks marked for accelerated processing.

12. The method of claim 1, wherein the blocks contain color values, the method further comprising:

condensing the color values into 6-bit red-green-blue color values before computing the unique values.

13. A method of transmitting video graphics data, comprising:

dividing a screen into a number of blocks;

reading a first block and at least one subsequent block;

comparing the first block to a subsequent block;

developing a repeat command based on how many subsequent blocks equal the first block; and

transmitting the first block and the repeat command.

14. The method of claim 13, comprising:

periodically reading configuration information of a video graphics controller;

determining if the configuration information has changed; and

transmitting configuration changes if the configuration information has changed.

15. The method of claim 14,

wherein the screen is divided into a number of blocks, including rows and columns, based on the screen resolution, and

wherein the configuration information is read after a row of blocks is completed.

16. The method of claim 13, comprising:
periodically reading configuration information of a pointing device;
determining if the configuration information has changed; and
transmitting configuration changes if the configuration information has changed.
17. The method of claim 16,
wherein the screen is divided into a number of blocks, including rows and
columns, based on the screen resolution, and
wherein the configuration information is read after a row of blocks is completed.
18. The method of claim 13,
wherein all the blocks are read over a number of passes, and
wherein each pass reads a different fraction of all the blocks.
19. The method of claim 18, wherein surrounding blocks are marked for
accelerated processing if during one of the passes the unique value for a given block is
different from a previously computed unique value corresponding to the given block.
20. The method of claim 19, wherein each pass reads a different fraction of all
the blocks and any blocks marked for accelerated processing.
21. The method of claim 12, wherein the blocks contain color values, the
method further comprising:
condensing the color values into 6-bit red-green-blue color values before
computing the unique values.
22. A method of transmitting video graphics data, comprising:
dividing a screen into a number of blocks;
reading a first block of the screen;
compressing the first block;

reading a second block of the screen;
comparing the first block to the second block;
compressing the second block with the first block if the first and second blocks
are not equal; and
transmitting the compressed blocks.

23. The method of claim 22, wherein the compressing step includes compressing a number of similar bytes using a run length encoding technique.

24. The method of claim 22,
wherein all the blocks are read over a number of passes and each pass reads a
different fraction of all the blocks,
wherein surrounding blocks are marked for accelerated processing if during one of
the passes the unique value for a given block is different from a previously computed
unique value corresponding to the given block, and
wherein the reading step includes reading a different fraction of all the blocks and
any blocks marked for accelerated processing.

25. A computer system for communicating with a remote console, comprising:
a video graphics controller having a frame buffer;
a communications device; and
a processor coupled to the video graphics controller and the communications
device, the processor configured to:
divide the frame buffer into a number of blocks;
periodically read the frame buffer and determine whether any of the blocks
have changed since a previous reading; and
transmit changed blocks to the remote console via the communications
device.

26. The computer system of claim 23, wherein a hash code is calculated and stored for each block when the block is first read, and wherein subsequent changes are determined for a given block by calculating a new hash code and comparing the new hash code to the stored hash code.

27. The computer system of claim 26, wherein if subsequently positioned changed blocks have hash codes equal to a previously positioned block, the processor is configured to develop a repeat command to indicate how many times the previously positioned block is repeated prior to transmission.

28. The computer system of claim 26, wherein if subsequently positioned changed blocks have hash codes unequal to a previously positioned block, the processor is configured to compress the subsequently positioned changed block prior to transmission.

29. The computer system of claim 28, wherein the processor is configured to compress similar bytes within a block using a run length encoding technique.

30. The computer system of claim 25, wherein the processor is further configured to:

periodically read configuration information of the video graphics controller;
determine if the configuration information has changed; and
transmit configuration changes if the configuration information has changed.

31. The computer system of claim 30,
wherein the screen is divided into a number of blocks, including rows and
columns, based on the screen resolution, and
wherein the processor reads the configuration information after a row of blocks is
completed.

32. The computer system of claim 25, wherein the processor is further configured to:

periodically read configuration information of a pointing device;
determine if the configuration information has changed; and
transmit configuration changes if the configuration information has changed.

33. The computer system of claim 32,
wherein the screen is divided into a number of blocks, including rows and columns, based on the screen resolution, and
wherein the processor reads the configuration information after a row of blocks is completed.

34. The computer system of claim 25,
wherein the processor reads all the blocks over a number of passes, and
wherein each pass reads a different fraction of all the blocks.

35. The computer system of claim 34, wherein the processor marks surrounding blocks for accelerated processing if during one of the passes the unique value for a given block is different from a previously computed unique value corresponding to the given block.

36. The computer system of claim 35, wherein each pass reads a different fraction of all the blocks and any blocks marked for accelerated processing.

37. A computer system for communicating with a remote console, comprising:
a video graphics controller having a frame buffer;
a monitor connectable to the video graphics controller;
a communications device; and
a processor coupled to the video graphics controller and the communications device, the processor configured to:

divide the frame buffer into a number of blocks;
periodically read the frame buffer and determine whether any of the blocks
have changed since a previous reading; and
transmit changed blocks to the remote console via the communications
device.

38. An apparatus for updating video graphics data for a remote console,
comprising:

means for dividing a frame buffer into a series of blocks;
means for reading one of the blocks;
means for computing a hash code for the block;
means for comparing the hash code to a previously computed hash code for the
block; and
means for transmitting the block if the hash codes are not equal.